for demonstration of the method, we note from Table 4 that 95% of the population represented by the NHANES III data was likely to be exposed to ≤ 67 ppb chloroform in water, which can be compared with the MCL for trihalomethanes of 100 ppb (U.S. EPA 2007). Using distributions for the posterior concentration of chloroform in tap water (C_W), daily water intake (W_I), and body weight (BW), we drew 10,000 samples from the product $C_W W_I$/BW to obtain a daily chloroform intake from drinking water (Table 5). The RfD for chloroform is 0.01 mg/kg/day (U.S. EPA 2001). The 95th percentile for the posterior distribution for chloroform concentration in ambient air is 0.02 μg/L. The U.S. EPA currently does not have an established inhalation reference concentration for chloroform (U.S. EPA 2001).

The accuracy of the results is limited by the approximate nature of the model, the assumptions regarding exposure, and the quality of the experimental data. In particular, the prior distribution from the TEAM data did not correspond to the same population as that of the NHANES III data, and although it provided an informative prior, data from the same locations and time frame as the NHANES III data, even if not corresponding to the individuals in that study, would likely improve the accuracy of the results. Although the method presented here is intended to be a tool to reconstruct exposure from biomonitoring data where no corresponding exposure data are available, comparison of the results with such data would greatly assist in assessing the accuracy of the method, and such results could be incorporated as prior distributions for additional chloroform dose reconstructions.

Table 5. Estimated chloroform intake from drinking water (mg/kg/day).

Percentile	Chloroform intake (mg/kg/day)
5th	9.9×10^{-5}
10th	1.3×10^{-4}
25th	2.1×10^{-4}
50th	4.0×10^{-4}
75th	7.4×10^{-4}
90th	1.2×10^{-3}
95th	1.6×10^{-3}

Correction

In the abstract of the original manuscript published online, the units for chloroform exposures in tap water were presented as milligrams per liter instead of micrograms per liter. They have been corrected here.

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